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SNOW SURVEY and WATER SUPPLY FORECASTS for COLORADO and NEW MEXICO

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE
and
COLORADO AGRICULTURAL EXPERIMENT STATION,
STATE ENGINEER of COLORADO
and STATE ENGINEER of NEW MEXICO

Data included in this report were obtained by the agencies named above in cooperation with the Bureau of Reclamation, U.S. Forest Service, National Park Service and other Federal, State, and private organizations.

AS OF
FEB. 1, 1961

USDA SCS LINCOLN NEBR 1967

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Cooperative Snow Survey and Water Supply Forecast Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Fortunately, most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from fore-knowledge of the runoff.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, about 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

By relating snow survey measurements taken over a period of years to spring-summer runoff during the same period, relationships have been developed which make it possible to forecast seasonal runoff several months in advance of occurrence. In order to make a forecast, once a forecast relationahip has been developed, the maximum snow water content at previously selected key snow courses is usually entered in the forecast relationship. More accurate forecasts are often obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast relationshipa.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasta, reservoir storage, soil moisture and other guide data to water management and conservation decisions.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Colorado and State of Utah	Monthly (Jan.-May)	Salt Lake City, Utah	Utah State Engineer and Other Agencies
Columbia	Monthly (Jan.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Upper Missouri and State of Montana	Monthly (Feb.-May)	Bozeman Montana	Mont. Agr. Exp. Station
West-Wide	Oct. 1, Apr. 1, May 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. Agr. Exp. Station Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Feb.-May)	Boise, Idaho	Idaho State Reclamation Engineer
Nevaoa	Monthly (Feb.-Apr.)	Reno, Nevaoa	Nevada Dept. of Conservation and Natural Resources Division of Water Resources
Oregon	Monthly (Jan.-May)	Portland, Oregon	Ore. Agr. Exp. Station Oregon State Engineer
Washington	Monthly (Feb.-May)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb. June)	Casper, Wyoming	Wyoming State Engineer

Copies of these various reports may be secured from: Head, Water Supply Forecasting Section
Soil Conservation Service
209 S. W. Fifth Ave., Portland 4, Oregon

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Comptroller, Water Rights Br., Dept. of Lands and Forests, Parliament Blog., Victoria, B.C., Canaoa
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, Sacramento, Calif.

FEDERAL-STATE COOPERATIVE

SNOW SURVEYS AND WATER SUPPLY FORECASTS

for

COLORADO RIVER, PLATTE RIVER ARKANSAS RIVER AND RIO GRANDE DRAINAGE BASINS

Issued

February 1, 1961

Report Prepared By
Jack N. Washichek, Snow Survey Supervisor
and
Don W. McAndrew, Assistant Snow Survey Supervisor
Fort Collins, Colorado

United States Department of Agriculture
Soil Conservation Service
and
Colorado Agricultural Experiment Station
Fort Collins, Colorado
and
State Engineer of Colorado
Denver, Colorado
and
State Engineer of New Mexico
Santa Fe, New Mexico

Issued By

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Experiment Station

J. E. Whitten
State Engineer
State of Colorado

S. E. Reynolds
State Engineer
State of New Mexico

General Series Paper No. 738

Colorado Agricultural Experiment Station

WATER SUPPLY OUTLOOK FOR COLORADO AND NEW MEXICO

AS OF

FEBRUARY 1, 1961

SNOW COVER

SNOW OVER THE ENTIRE TWO STATE AREA IS DEFICIENT. SEVERAL MONTHS REMAIN IN THE SNOW SEASON WHICH COULD BRING ALL AREAS UP TO NORMAL. HOWEVER, IN SOUTHERN COLORADO A CONSIDERABLE AMOUNT OF SNOW IS NEEDED. SOUTHERN COLORADO IS THE LOWEST AREA WITH SNOW COVER OF ONLY ABOUT 50%. OTHER AREAS FOLLOW CLOSELY, GUNNISON 55%, YAMPA AND WHITE 60%, SOUTH PLATTE 65%, ARKANSAS 65% AND THE MAIN STEM OF THE COLORADO ABOUT 70%.

SNOW PACK ON THE RIO GRANDE IN NEW MEXICO IS SLIGHTLY HIGHER DUE TO A LATE STORM. THE ONLY DRAINAGES THAT ARE VIRTUALLY ASSURED OF A GOOD WATER SUPPLY ARE AREAS BELOW THE RESERVOIRS ON THE CANADIAN AND PECOS RIVERS. THESE AREAS HAVE EXCELLENT CARRYOVER STORAGE.

SOIL MOISTURE

MOST MOUNTAIN SOILS ARE DRY, HOWEVER, HIGH ELEVATIONS IN SOUTHERN COLORADO AND NEW MEXICO ARE BETTER THAN LAST YEAR AND NEAR NORMAL. REDUCTION OF STREAMFLOW RESULTS FROM POOR MOUNTAIN SOIL MOISTURE. MOST IRRIGATED AREAS REPORT POOR TO FAIR SOIL MOISTURE CONDITIONS.

RESERVOIR STORAGE

CARRYOVER STORAGE IS NEAR NORMAL ON THE SOUTH PLATTE DRAINAGE. ALL OTHER AREAS HAVE SLIGHTLY LESS THAN AVERAGE EXCEPT MIDDLE AND LOWER NEW MEXICO. ON THE MAIN STEM OF THE RIO GRANDE STORAGE IS BELOW LAST YEAR AND MUCH BELOW NORMAL. STORAGE ON THE CANADIAN AND PECOS RIVERS IN NEW MEXICO IS EXCELLENT WITH ALL MAJOR RESERVOIRS FULL.

WATER SUPPLY OUTLOOK

THE MAP ON THIS PAGE INDICATES THE MOST PROBABLE WATER SUPPLY AS OF THE DATE OF THIS REPORT. ESTIMATES ASSUME AVERAGE CONDITIONS OF SNOW FALL, PRECIPITATION AND OTHER FACTORS FROM THIS DATE TO THE END OF THE FORECAST PERIOD. AS THE SEASON PROGRESSES ACCURACY OF ESTIMATES IMPROVE. IN ADDITION TO EXPECTED STREAMFLOW, RESERVOIR STORAGE, SOIL MOISTURE IN IRRIGATED AREAS, AND OTHER FACTORS ARE CONSIDERED IN ESTIMATING WATER SUPPLY. ESTIMATES APPLY TO IRRIGATED AREAS ALONG THE MAIN STREAMS AND MAY NOT INDICATE CONDITIONS ON SMALL TRIBUTARIES.



USDA SCS LINCOLN NEBR 1959

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WATER SUPPLY OUTLOOK BY MAJOR WATERSHED AREAS

WATERSHED 1 - SOUTH PLATTE RIVER WATERSHED

Describes water supply conditions in Fort Collins, Big Thompson, Longmont, Boulder Valley, Jefferson, Teller-Park, West Plum, Cherry Creek, Kiowa, West Arapahoe, West Adams, East Adams, Platte Valley, Southeast Weld, and West Greeley Soil Conservation Districts.

WATERSHED 2 - ARKANSAS RIVER WATERSHED

Describes water supply conditions in Lake County, Upper Arkansas, Fremont, Custer County Divide, Fountain Valley, Black Squirrel, Horse-Rush Creek, Central Colorado, Turkey Creek, Pueblo, Bessemer, Olney Boone, Cheyenne, Upper Huerfano, Stonewall, Spanish Peaks, Purgatoire, Branson Trinchera, Western Baca County, Southeastern Baca County, Two Buttes, Bent, Timpas, Northeast Prowers, Prowers, West Otero and East Otero Soil Conservation Districts.

WATERSHED 3 - RIO GRANDE RIVER WATERSHED (COLORADO)

Describes water supply conditions in Rio Grande, Center, Mosca, Hooper, Mt. Blanca, and Sanchez Soil Conservation Districts.

WATERSHED 4 - RIO GRANDE RIVER WATERSHED (NEW MEXICO)

Describes water supply conditions in Lower Cebolla, Abiquiu-Vallecitos, Eastern Taos, Lindrith, Coyote-Canones, Espanola Valley, Pojoaque, Jemez, Santa Fe-Sandoval, Tijeras, Cuba, and Edgewood Soil Conservation Districts.

WATERSHED 5 - DOLORES, SAN JUAN, AND ANIMAS RIVERS WATERSHED

Describes water supply conditions in San Miguel Basin, Dove Creek, Dolores, Mancos, LaPlata, Pine River, and San Juan Soil Conservation Districts.

WATERSHED 6 - GUNNISON RIVER WATERSHED

Describes water supply conditions in Delta, Gunnison, Cimarron, Shavano, and Uncompahgre Soil Conservation Districts.

WATERSHED 7 - COLORADO RIVER WATERSHED

Describes water supply conditions in DeBeque, Lower Grand Valley, Bookcliff, Rifle Silt, Eagle County, Middle Park, Glade Park, Upper Grand Valley, Plateau Valley, South Side, and Mt. Sopris Soil Conservation Districts.

WATERSHED 8 - YAMPA, WHITE AND NORTH PLATTE RIVERS WATERSHED

Describes water supply conditions in Yampa, Moffat, West Routt, East Routt, North Park, Upper White River, Lower White River, and Douglas Creek Soil Conservation Districts.

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

SOUTH PLATTE RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW COVER

THE SNOW PACK OVER THE ENTIRE SOUTH PLATTE IS DEFICIENT. SOME OF THE HIGHER ELEVATION COURSES ARE NEAR THE MINIMUM OF RECORD. SNOW ON THE STREAM BASINS FROM THE CACHE LA POUDRE SOUTH TO BOULDER CREEK IS ABOUT 60% OF THE 15-YEAR AVERAGE. FROM BOULDER CREEK SOUTH, INCLUDING SOUTH PLATTE, THE SNOW COVER IS 65% OF NORMAL. IF THIS TREND CONTINUES THERE COULD BE SOME CRITICAL SHORTAGES ON THIS BASIN. SINCE ONLY 40% OF THE SNOW SEASON HAS PASSED, THERE IS STILL AN OPPORTUNITY FOR IMPROVEMENT.

SOIL MOISTURE

SOIL MOISTURE AT THE HIGH ELEVATIONS IS BELOW NORMAL AND FAR BELOW LAST YEAR. THIS CONDITION WILL TEND TO REDUCE SPRING RUNOFF. SOME SOIL MOISTURE IN THE IRRIGATED AREA IS REPORTED AS GOOD, BUT MOST OF THE REPORTS INDICATE POOR TO FAIR CONDITIONS.

RESERVOIR STORAGE

RESERVOIR STORAGE IS JUST SLIGHTLY BETTER THAN AVERAGE. THIS WILL HELP TO ALLEVIATE SOME OF THE WATER SHORTAGES THAT MAY EXIST. THE BIG THOMPSON PROJECT CONTAINS 420,000 A.F. COMPARED TO 400,000 A.F. LAST YEAR AT THIS TIME.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

THIS REPORT COMPILED IN COOPERATION WITH COLORADO EXPERIMENT STATION AND STATE ENGINEER OF COLORADO.

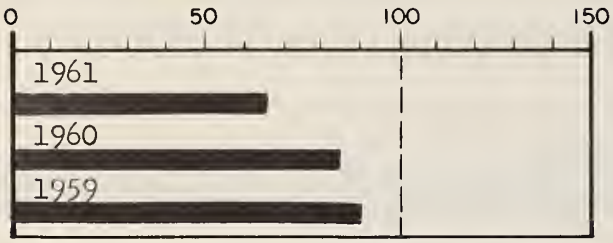
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K. W. Chalmers, State Conservationist, Colorado

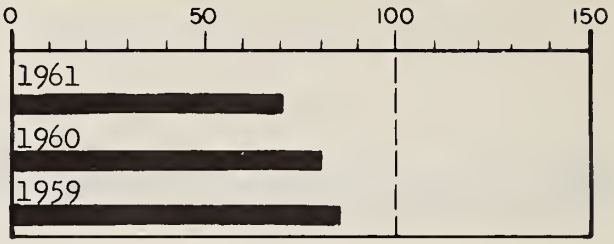
R. G. Wilson, Area Conservationist, Littleton, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

CACHE LA POUDRE - BOULDER



CLEAR CREEK - UPPER SOUTH PLATTE



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Horsetooth**	143.5	89.2	84.7	94.0
Windsor	18.6	7.1	11.8	15.6
Cache LaPoudre	9.5	4.6	8.4	7.6
Fossil Creek	11.6	6.7	7.7	7.9
Halligan	6.4	2.5	3.7	2.0
Chambers Lake	8.8	1.4	3.1	2.6
Cobb Lake	34.3	12.9	18.7	5.5
Black Hollow	8.0	2.2	2.8	3.4
Carter Lake **	108.9	63.2	66.4	69.2
Lake Loveland	14.3	7.6	10.4	7.0
Boyd Lake	44.0	34.6	35.6	18.5
Lone Tree	9.2	4.3	7.8	8.4
Mariano	5.4	3.9	5.2	3.1
Union	12.7	8.4	11.4	7.2
Eleven Mile	81.9	97.8	97.8	69.4
Cheeseman	79.0	60.9	59.7	52.7
Marston	18.9	5.2	15.6	15.1
Antero	33.0	15.7	15.7	14.9
Gross **	43.1	19.0	24.7	-
Milton	24.4	14.0	13.9	12.8
Standley	18.5	7.0	13.6	12.4
Marshall	10.3	0.9	4.8	3.5

MEASURED FIRST OF MONTH

* 15 yr. Avg. 1943-57

** Less than 15 years

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Feather	6.0	0.0	4.5	1.1
Laramie Road	7.0	0.8	5.3	2.2
Beaver Dam	6.0	0.7	4.6	1.3
Two Mile	8.0	0.5	5.0	3.0
Guard Station	7.0	0.7	2.2	1.1
Alpine Camp	7.0	0.5	5.8	1.5
Hoop Creek	6.0	0.5	4.4	2.0
Alma	7.0	0.9	5.0	2.2
Kenosha Pass	7.0	0.4	2.8	2.1

*All past data

ALL PROFILES 4 FEET DEEP

PRECIPITATION

STATION	FALL * AVE.	FALL * DEP.	WINTER AVE. Dec.	WINTER DEP.
So. Platte	3.44	+1.13	1.08	.52

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

* August through November

STREAMFLOW FORECAST (1,000 A.F.)

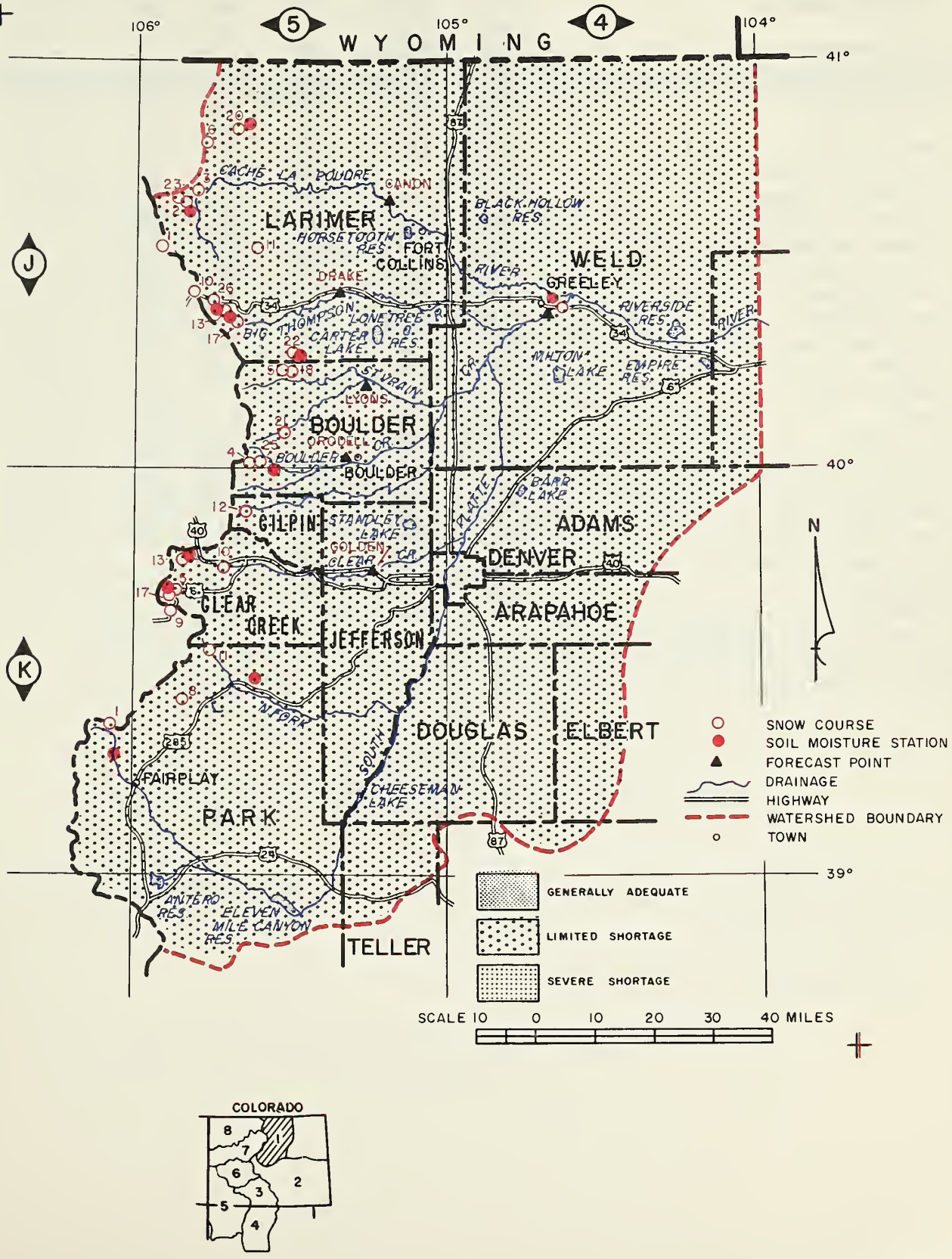
STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
Cache La Poudre at Canon (1)			189
Big Thompson at Drake (2)			93
Saint Vrain at Lyons			84
Boulder at Orodell			55
Clear Creek at Golden (3)			137

(1) Observed flow minus diversions from Michigan, Colorado and Laramie rivers, plus diversions for irrigation and municipal use above station.

(2) Observed flow plus by-pass to power plants.

(3) Observed flow minus diversions through Jones Tunnel.

SOUTH PLATTE RIVER WATERSHED IN COLORADO



USDA-SCS-LINCOLN NEBR 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES) LAST YEAR	PAST RECORD: WATER CONTENT (INCHES) AVERAGE	PAST RECORD: YEARS OF RECORD
SOUTH PLATTE RIVER and TRIBUTARIES							
Cameron Pass (a)	5J1	1/31	34	7.8	9.0	13.6	22
Chambers Lake	5J2	1/29	17	3.1	2.8	5.6	22
Big South	5J3	1/29	8	1.4	0.9	1.8	22
Wild Basin	5J5	Est.	18	4.3	6.6	9.0	23
Loveland Pass	5K5	1/30	28	6.2	7.8	9.4	21
Hoosier Pass	6K1	1/30	25	6.0	8.1	7.2	22
Lake Irene	5J10	Est.	24	5.5	9.6	13.6	22
Deadman Hill (a)	5J6	1/31	34	6.1	4.5	8.8	17
Hour Glass Lake	5J11		NS	NS	NS	4.1	15
University Camp	5J8	1/30	34	9.4	7.5	12.7	22
Jefferson Creek	5K8		NS	NS	NS	5.6	18
Hidden Valley	5J13	1/29	22	5.3	6.2	7.2	20
Grizzly Peak *	5K9	1/27	31	6.1	11.5	11.3	19
Red Feather	5J20	1/29	16	3.2	1.7	5.1	12
Deer Ridge	5J17	1/28	8	1.7	0.9	3.6	12
Copeland Lake	5J18	1/29	13	2.7	1.1	3.8	11
Empire	5K10	1/30	19	4.1	5.2	4.9	11
Geneva Park	5K11				1.5	3.5	11
Ward	5J21	1/27	16	4.1	1.9	4.0	11
Lost Lake	5J23	1/27	24	5.3	5.6	8.1	10
Long's Peak	5J22	1/28	21	4.9	5.1	7.6	10
Boulder Falls	5J25	1/30	26	6.2	4.1	8.2	8
Berthoud Falls	5K13	1/31	31	3.9	6.5	9.4	9
Two Mile	5J26	1/28	24	5.4	7.3	8.3	8
Loveland Lift No. 1	5K24	1/27	45	10.3	-	-	-
Baltimore	5K23	1/31	19	4.2	-	-	-
Pine Creek	5J31	1/29	11	2.2			

* On adjacent drainage
NS No survey
(a) Air Observed

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Ft Collins, Colorado

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

ARKANSAS RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW COVER

THE SNOW PACK ON THE ARKANSAS BASIN WILL HAVE TO IMPROVE MATERIALLY TO INSURE ADEQUATE WATER FOR IRRIGATION THIS SUMMER. SNOW OVER THE BASIN IS ONLY ABOUT 65% OF NORMAL. THE SNOW IN MONARCH PASS AREA IS NEAR NORMAL, ALL OTHER AREAS ARE MUCH BELOW THE 15-YEAR AVERAGE. HEAVY SNOWS IN THE NEXT FEW MONTHS CAN MATERIALLY IMPROVE THIS OUTLOOK.

SOIL MOISTURE

LAVETA PASS SOIL MOISTURE STATION INDICATES EXCELLENT MOISTURE. THIS IS THE ONLY STATION INDICATING MUCH ABOVE NORMAL, HOWEVER, REMAINING STATIONS ARE NEAR NORMAL INDICATING GOOD FALL PRECIPITATION. IRRIGATED AREAS ARE REPORTING FAIR TO GOOD SOIL MOISTURE.

RESERVOIR STORAGE

RESERVOIR STORAGE IS BELOW NORMAL. JOHN MARTIN RESERVOIR CONTAINS ONLY 9,900 A.F. COMPARED TO 58,500 A.F. AVERAGE CARRYOVER. OTHER RESERVOIRS ARE BELOW NORMAL BUT SIMILAR TO LAST YEAR.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

THIS REPORT COMPILED IN COOPERATION WITH COLORADO EXPERIMENT STATION AND STATE ENGINEER OF COLORADO.

ISSUED BY: SOIL CONSERVATION SERVICE

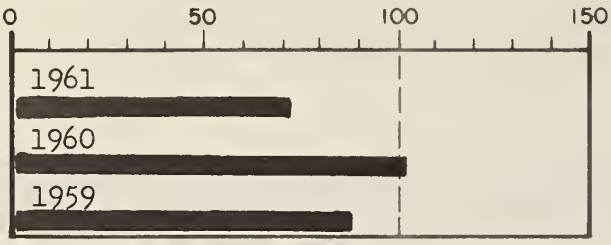
K. W. Chalmers, State Conservationist, Colorado

Dearl B. Beach, Area Conservationist, Colorado Springs, Colorado

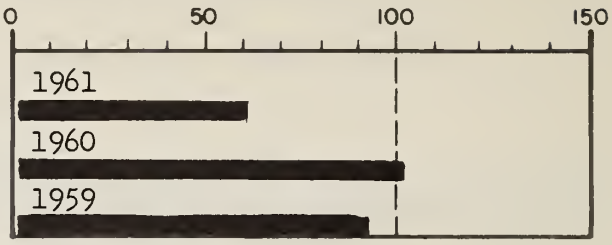
Will D. McCorkle, Area Conservationist, Lamar, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

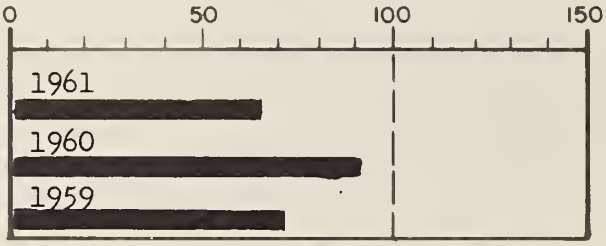
ARKANSAS ABOVE CADDOA DAM



ARKANSAS BELOW CADDOA DAM



PURGATOIRE - CUCHARAS - HUERFANO



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Twin Lakes	57.9	8.9	9.9	23.7
Sugar Loaf	17.4	1.5	3.0	8.0
Clear Creek	11.4	5.0	8.0	5.7
Meredith	41.9	0	.0	13.4
Horse Creek	26.9	9.6	11.0	7.3
Adobe Creek	61.6	0	.0	22.4
Cucharas	40.0	1.5	0.7	5.5
John Martin	366.6	9.9	12.1	58.5
Model	15.0	4.1	2.4	2.2

* 15 yr. Avg. 1943-57

MEASURED FIRST OF MONTH

PRECIPITATION

STATION	FALL* AVE.	FALL* DEP.	WINTER AVE. Dec.	WINTER DEP.
Arkansas	4.76	.08	.95	.22

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

*August through November

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Leadville	7.0	0.6	1.0	1.1
Twin Lakes	6.0	1.6	4.0	3.7
Garfield	7.0	3.4	4.8	4.3
King	8.0	2.6	5.9	6.1
LaVeta Pass	8.0	7.2	2.8	3.1

*All past data

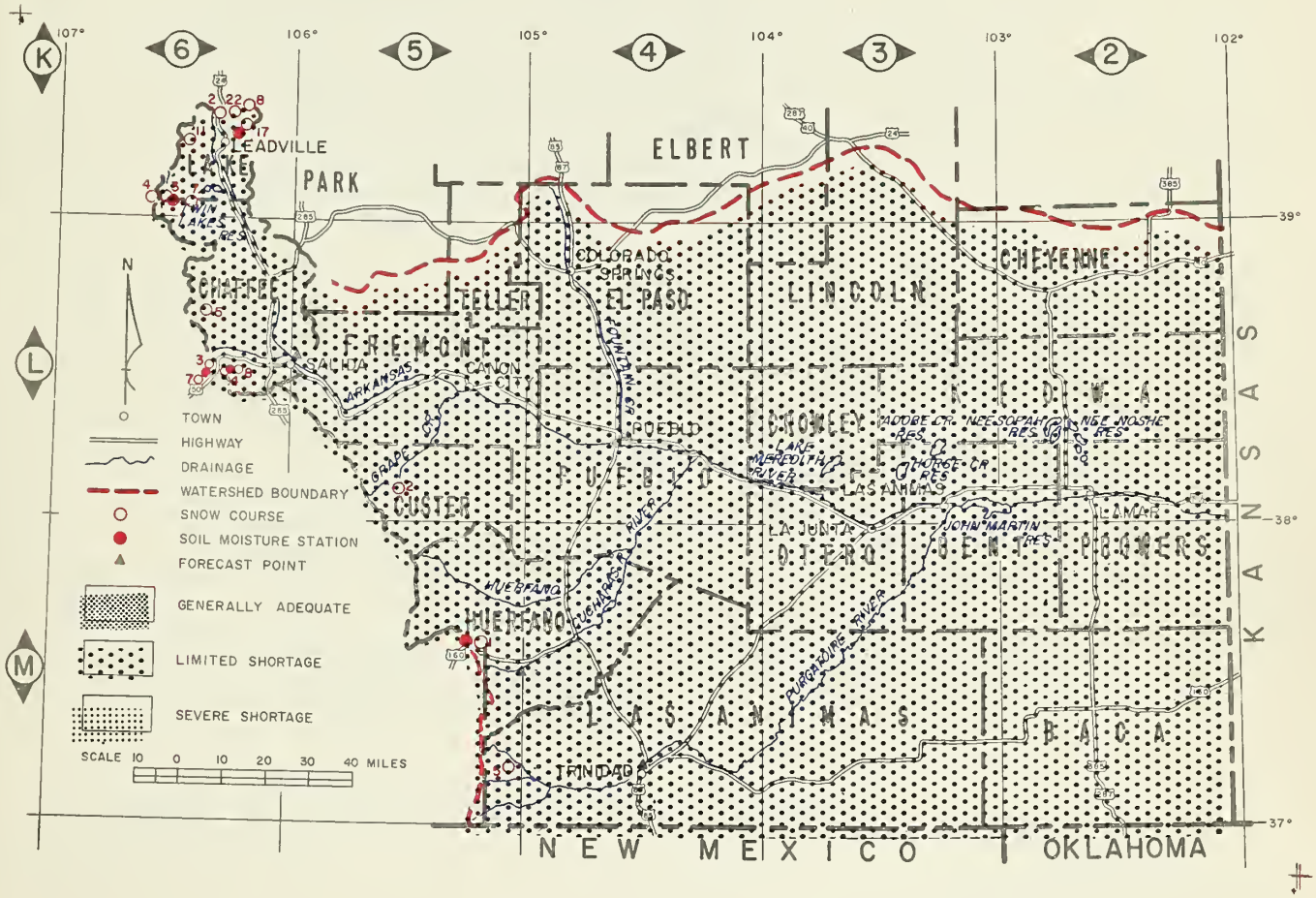
ALL PROFILES 4 FEET DEEP

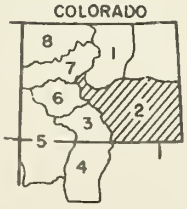
STREAMFLOW FORECAST (1000 A.F.)

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
Arkansas at Salida (1)			339
Arkansas at Pueblo (1)			342
Cucharas nr LaVeta			14
Purgatoire at Trinidad			52

(1) Observed flow plus change in storage in Clear Creek, Twin Lakes, and Sugar Loaf Reservoirs minus diversions through Busk-Ivanhoe and Twin Lake Tunnels and Ewing, Fremont Pass, Wurtz and Columbine Ditches.

ARKANSAS RIVER WATERSHED IN COLORADO





USDA-SCS-LINCOLN, NEBR. 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES): LAST YEAR	PAST RECORD: WATER CONTENT (INCHES): AVERAGE	PAST RECORD: YEARS OF RECORD
ARKANSAS RIVER							
Tennessee Pass	6K2	1/30	17	3.3	5.6	6.9	25
Twin Lakes Tunnel	6K3	1/20	15	2.1	7.0	6.6	23
LaVeta Pass *	5M1	1/26	15	2.8	5.2	6.6	21
Four Mile Park	6K7	1/30	13	2.7	1.0	3.0	21
Fremont Pass	6K8	1/28	31	6.7	9.8	10.3	25
Garfield	6L8	1/30	33	8.4	4.8	-	1
Monarch Pass	6L4	1/30	40	10.3	7.8	10.8	20
St. Elmo (a)	6L5	1/25	29	6.3	5.7	8.7	9
Timberline	6K11				-	12.1	9
East Fork	6K17	1/28	17	3.1	4.9	5.8	6
Westcliffe	5L2		NS	NS	-	-	-
Bourbon	5M5		NS	NS	-	-	2
Tomichi	6L7	1/30	25	4.9	4.3	-	1
Cooper Hill		1/29	22	4.7	-	-	-

* On adjacent drainage
(a) Air observed
NS No survey

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
Soil Conservation Service
Colorado State University
Ft. Collins, Colorado

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

UPPER RIO GRANDE RIVER WATERSHED IN COLORADO

as of
FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW COVER

ONLY ONCE IN THE LAST TWENTY YEARS HAS THE SNOW COVER ON WOLF CREEK PASS BEEN AS LOW AS THIS YEAR. THIS OCCURRED IN 1946. SNOW PACK IS ONLY ABOUT 50% OF NORMAL ON THE HEADWATERS OF THE RIO GRANDE. THE ALAMOSA AND CONEJOS WATERSHEDS ARE SLIGHTLY BETTER WITH 75% AND 60%, RESPECTIVELY. THE SANGRE DE CRISTO AREA FOLLOWS THE SAME PATTERN AS THE RIO GRANDE WITH SLIGHTLY OVER 50% OF NORMAL SNOW COVER. IF WE HAVE ABOVE NORMAL SNOW IN THE NEXT FOUR MONTHS, WE STILL COULD HAVE ADEQUATE WATER THIS SUMMER.

SOIL MOISTURE

SOIL MOISTURE IS GENERALLY BETTER THAN LAST YEAR AND OVERALL IS BETTER THAN AVERAGE. IRRIGATED AREAS REPORT FAIR SOIL MOISTURE CONDITIONS.

RESERVOIR STORAGE

CARRYOVER STORAGE IS LESS THAN LAST YEAR AND ONLY ABOUT 57% OF THE 15-YEAR AVERAGE.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

THIS REPORT COMPILED IN COOPERATION WITH COLORADO EXPERIMENT STATION AND STATE ENGINEER OF COLORADO.

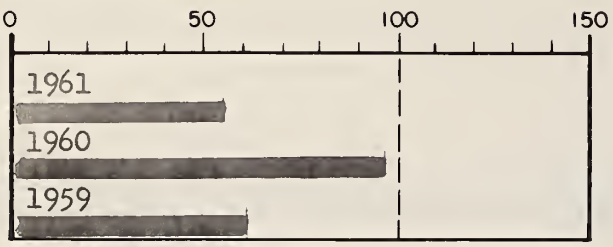
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K. W. Chalmers, State Conservationist, Colorado

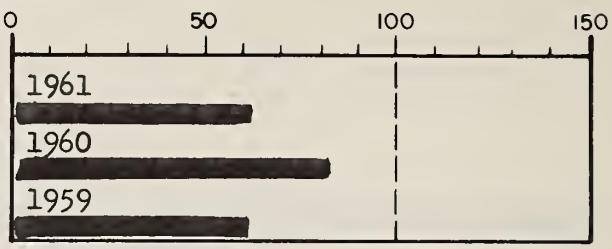
J. P. Sexton, Jr., Area Conservationist, Monte Vista, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

RIO GRANDE



ALAMOSA - CONEJOS



SANGRE DE CRISTO STREAMS



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Rio Grande	45.8	5.3	14.0	12.6
Santa Maria	45.0	2.1	4.4	7.8
Sanchez	103.2	8.1	12.5	9.9
Terrace	17.7	2.4	6.9	3.0
Continental	26.7	4.1	4.5	7.8
Platoro	60.0	4.0	4.0	4.6

* 15 year 1943-57 Avg.

MEASURED FIRST OF MONTH

PRECIPITATION

STATION	FALL * AVE.	FALL * DEP.	WINTER AVE.	WINTER DEP.
			Dec.	
Rio Grande (Colo.)	1.07	-.24	.80	.30

*August through November

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Bristol View	7.0	6.7	5.5	3.6
Alberta Park	9.0	1.1	5.0	3.2
Mogote	7.0	1.8	1.1	1.4
LaVeta Pass	8.0	7.2	2.8	3.1

* All past data

ALL PROFILES 4 FEET DEEP

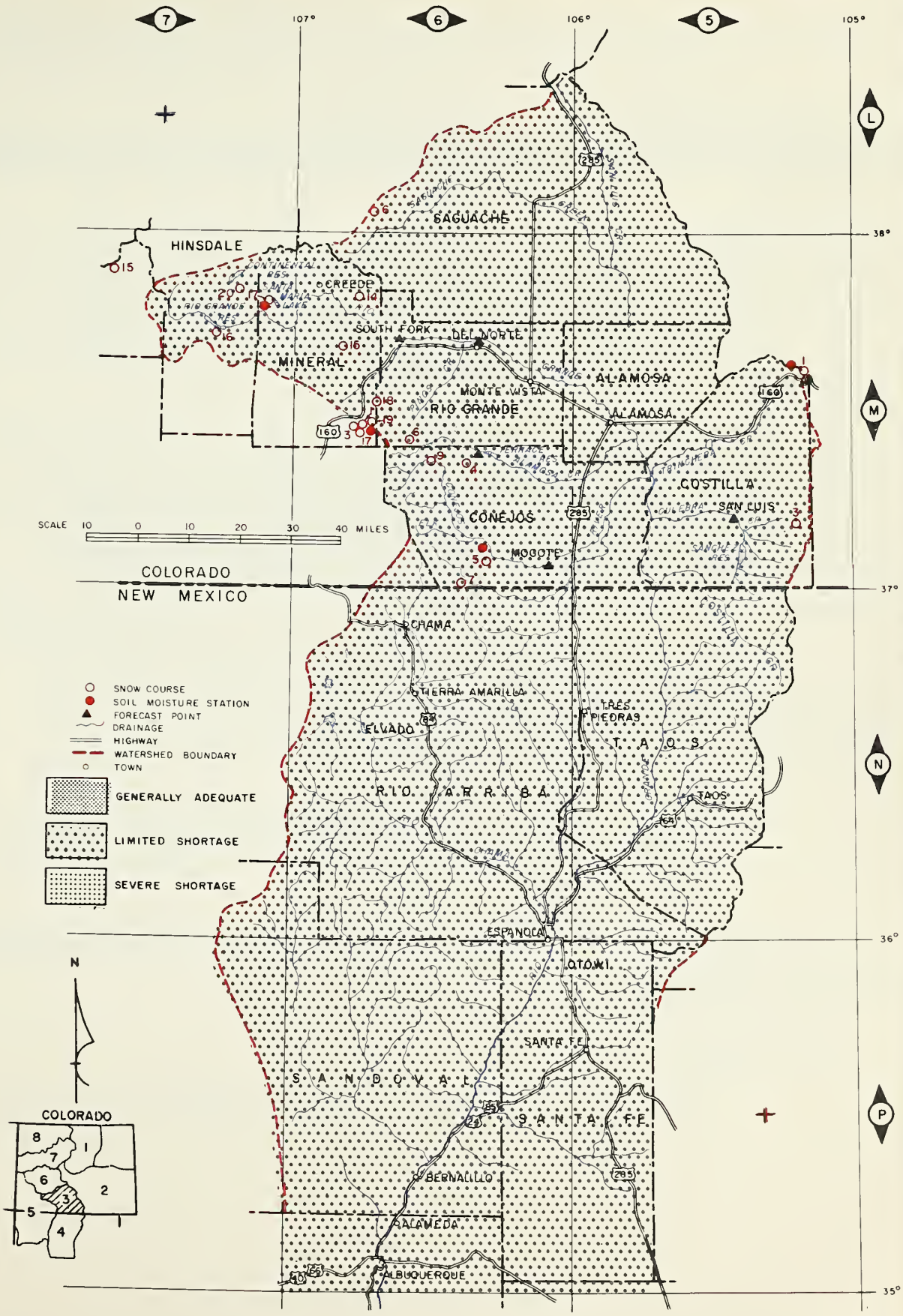
STREAMFLOW FORECAST (1,000 A.F.)

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
South Fork at South Fork			121
Rio Grande nr Del Norte 1			491
Alamosa above Terrace			71
Conejos nr Mogote			197
Culebra at San Luis 2			24

(1) Observed flow plus change in storage in Santa Maria, Rio Grande, and Continental Reservoir

(2) Observed flow plus changes in storage in Sanchez Reservoir.

UPPER RIO GRANDE RIVER WATERSHED IN COLORADO



USDA-SCS LINCOLN NEBR 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES): LAST YEAR	PAST RECORD: WATER CONTENT (INCHES): AVERAGE	PAST RECORD: YEARS OF RECORD
RIO GRANDE in COLORADO							
Wolf Creek Pass	6M1	1/27	47	7.6	21.4	19.5	21
Upper Rio Grande	7M16	1/29	15	3.6	7.4	5.6	20
Santa Maria	7M17	1/30	8	1.3	3.6	4.0	22
Pool Table	5M14		NS	NS	NS	-	-
Lake Humphreys	6M15		NS	NS	NS	-	-
Cochetopa Pass	6L6	1/27	20	4.8	2.9	3.8	12
Red Mountain Pass *	7M15	1/28	55	12.2	18.9	16.9	3
Porcupine (a)	7M20	1/25	23	4.8	NS	7.9	6
Wolf Creek Summit *	7M17	1/27	39	8.1	27.3	19.3	10
Hiway	6M19	1/26	24	6.7	22.7	16.4	4
Pass Creek	6M18	1/26	15	3.1	8.5	9.3	5
ALAMOSA RIVER							
Silver Lakes	6M4	1/27	16	3.9	4.1	5.1	21
Summitville (a)	6M6	1/29	58	8.7	17.1	11.1	15
CONEJOS RIVER							
River Springs	6M5		NS	NS	NS	6.2	20
Cumbres Pass (a)	6M7	1/29	43	8.2	13.2	13.5	21
Platoro	6M9		NS	NS	NS		
SANGRE DE CRISTO RANGE (Colo)							
LaVeta Pass	5M1	1/26	15	2.8	5.2	6.6	21
Culebra	5M3		NS	NS	NS	6.5	18

* On adjacent drainage
(a) Air observed
NS No survey

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

RIO GRANDE RIVER WATERSHED IN NEW MEXICO

as of

FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW COVER

THE SNOW PACK IN THE HEADWATER OF THE RIO GRANDE IN COLORADO IS POOR. THE MOUNTAIN AREAS OF NEW MEXICO RECEIVED A GOOD SNOW NEAR THE END OF JANUARY. THIS INCREASED THE SNOW COVER TO ABOUT 80% OF NORMAL. MUCH SNOW IS STILL NEEDED TO INSURE ADEQUATE WATER ON THE MAIN STEM OF THE RIO GRANDE.

SOIL MOISTURE

SOIL MOISTURE CONDITIONS ON THE RIO GRANDE IN COLORADO AND NEW MEXICO ARE GENERALLY BETTER THAN LAST YEAR AT THIS TIME AND NEAR NORMAL. SOME IRRIGATED AREAS INDICATE GOOD SOIL MOISTURE, WHILE OTHERS REPORT LESS THAN AVERAGE. THIS WOULD INDICATE SPOTTY RAINS DURING THE FALL MONTHS.

RESERVOIR STORAGE

CARRYOVER STORAGE ON THE MAIN STEM OF THE RIO GRANDE IS LESS THAN LAST YEAR AND CONSIDERABLY LESS THAN NORMAL. THE MAIN RESERVOIRS ON THE CANADIAN AND PECOS DRAINAGES ARE FULL. THESE AREAS SHOULD HAVE ADEQUATE WATER THIS SUMMER DUE PRIMARILY TO THE EXCELLENT CARRYOVER STORAGE.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

THIS REPORT COMPILED IN COOPERATION WITH COLORADO EXPERIMENT STATION, STATE ENGINEER OF COLORADO AND STATE ENGINEER OF NEW MEXICO.

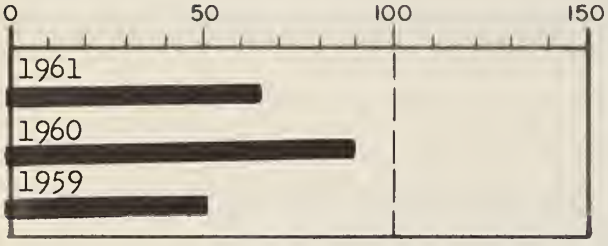
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R. A. Young, State Conservationist,
New Mexico

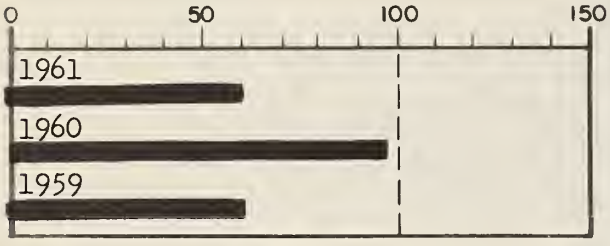
H. M. Cavett, Area Conservationist,
Sante Fe, New Mexico

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

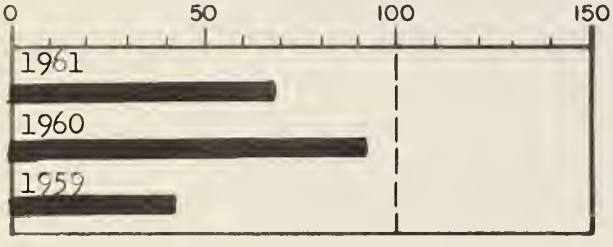
RIO CHAMA



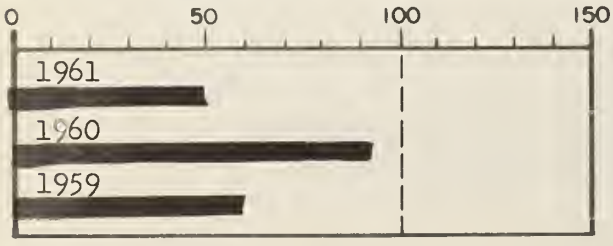
UPPER RIO GRANDE



MIDDLE RIO GRANDE



LOWER RIO GRANDE



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Elephant Butte	2206.8	460.8	553.3	581.2
Caballo	344.0	18.8	96.2	155.7
El Vado	194.5	1.8	14.3	34.9
Alamogordo	122.1	122.1	100.0	47.4
McMillan-Avalon	37.0	43.4	22.0	13.7
Red Bluff (Tex)	307.0	120.0	75.2	87.1

*15 yr. avg. 1943-57

MEASURED FIRST OF MONTH

PRECIPITATION

STATION	FALL * AVE.	FALL * DEP.	WINTER AVE. Dec.	WINTER DEP. Dec.
Upper Rio Grande	1.07	-.24	.80	.30
Middle Rio Grande	4.89	-1.18	1.23	.16
Lower Rio Grande	3.31	-.88	1.27	.75

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

*August through November

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Mogote (Colo)	7.0	1.8	1.1	1.4
Bristol View (Colo)	7.0	6.7	5.5	3.6
Alberta Park (Colo)	9.0	1.1	5.0	3.2
Chamita (New Mexico)	8.0	1.9	-	2.4
Bateman	6.7	0.2	-	4.3
Big Tesuque	3.7	0.7	1.3	2.9
Taos Canyon	3.3	0.6	0.4	2.8
Rio En Medio	3.5	0.1	0.5	2.6
Fenton Hill	6.5	4.3	2.0	-
Red River	7.8	0.2	0.7	2.3
Aqua Piedra	7.2	2.9	0.2	1.7

ALL PROFILES 4 FEET DEEP

* All past data

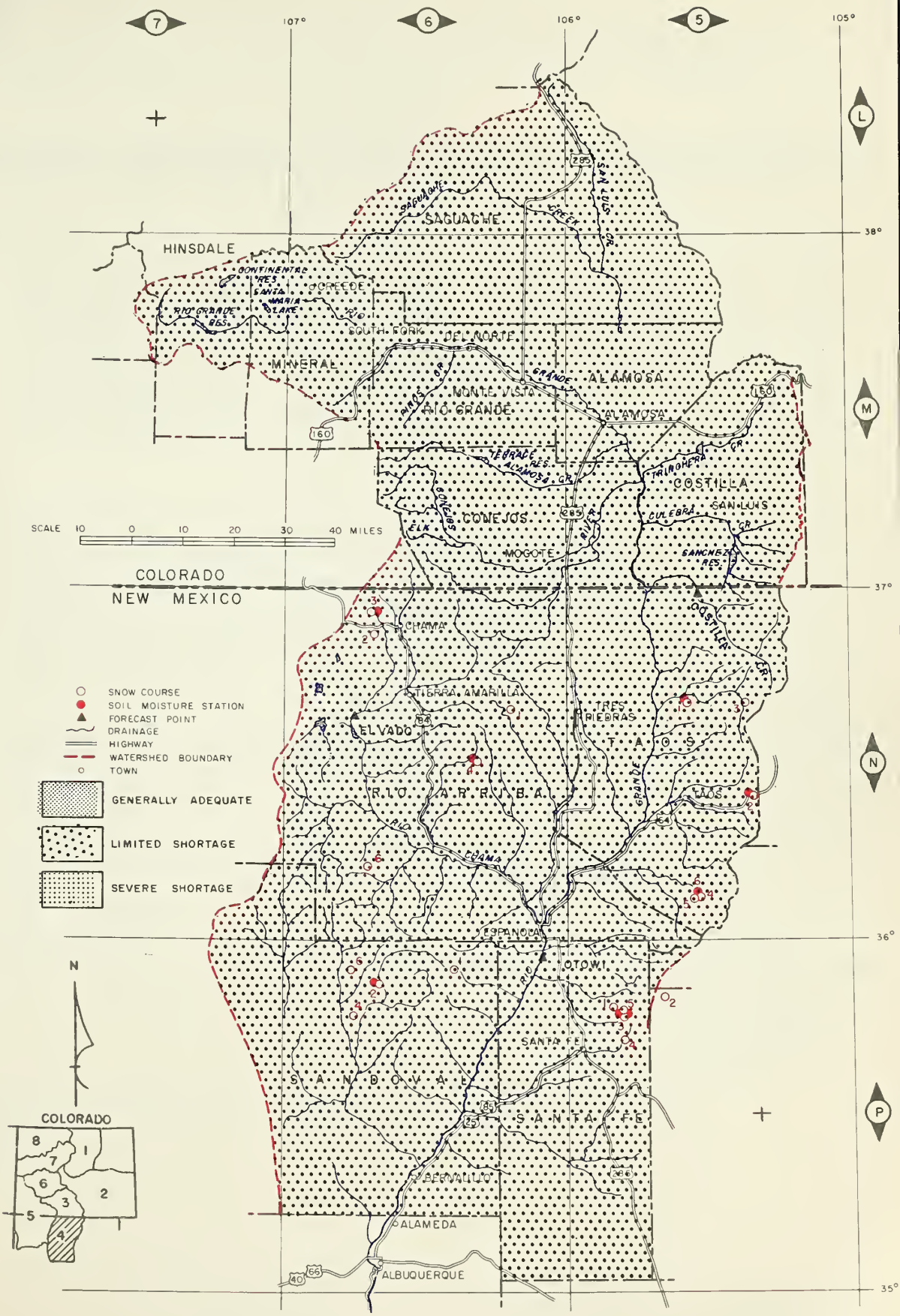
STREAMFLOW FORECAST (1000 A.F.)

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
Rio Chama nr La Puenta			210
Costilla at Costilla			27
Rio Grande at Otowi (10)			633
Rio Gr. at San Marcial (10)			434
Pecos at Pecos			48

(10) Observed flow plus changes in storage in Santa Maria, Rio Grande, Continental, Terrace, Sanchez, Platoro and El Vado Reservoirs.

* Rio Grande at Otowi and Rio Grande at San Marcial ave. Mar-July inclusive.

RIO GRANDE RIVER WATERSHED IN NEW MEXICO



USDA-SCS-LINCOLN NEBR 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES): LAST YEAR	PAST RECORD: WATER CONTENT (INCHES): AVERAGE	PAST RECORD: YEARS OF RECORD
RIO GRANDE (Colorado)							
Wolf Creek Pass	6M1	1/27	47	7.6	21.4	19.5	21
Upper Rio Grande	7M16	1/29	15	3.6	7.4	5.6	20
Santa Maria	7M17	1/30	8	1.3	3.6	4.0	22
Pool Table	6M14		NS	NS	NS	-	-
Lake Humphreys	6M15		NS	NS	NS	-	-
Cochetopa Pass	6L6	1/27	20	4.8	2.9	3.8	12
Porcupine (a)	7M20	1/25	23	4.8	8.2	7.9	6
Wolf Creek Summit	6M17	1/27	39	8.1	27.3	19.3	10
Hiway	6M19	1/26	24	6.7	22.7	16.4	4
Pass Creek	6M18	1/26	15	3.1	8.5	9.3	5
Silver Lakes	6M4	1/27	16	3.9	4.1	5.1	21
Summitville (a)	6M6	1/29	58	8.7	17.1	11.1	15
River Springs	6M5		NS	NS	3.7	6.2	20
Cumbres Pass (a)	6M7	1/29	43	8.2	13.2	13.5	21
Platoro	6M9		NS	NS	NS		
LaVeta Pass	5M1	1/26	15	2.8	5.2	6.6	21
Culebra	5M3		NS	NS	NS	6.5	18
RIO GRANDE (New Mexico)							
Payrole (a)	6N1	1/29	37	5.9	NS	6.4	19
Chama Divide	6N2	1/30	14	2.8	6.3	3.9	21
Chamita	6N3	1/30	26	4.5	6.4	7.3	19
Bateman	6N4		NS	NS	NS	8.1	8
Panchuela	5P2	1/29	17	2.0	5.0	2.6	22
Big Tesuque	5P3	1/30	8	2.0	7.1	3.4	19
Rio En Medio	5P5	1/30	18	4.2	9.4	5.2	13
Red River	5N1	1/30	19	3.1	4.6	5.4	19
Taos Canyon	5N2	1/30	14	3.4	4.6	4.7	21
Aspen Grove	5P1		NS	NS	NS	3.2	20
Hematite Park	5N3	1/30	15	2.8	4.1	3.5	19
Tres Ritos	5N4	1/27	20	3.3	5.0	3.9	22
Cordova (a)	5N5	1/29	37	6.0	NS	6.8	18
Elk Cabin	5P4				5.3	2.8	13
Quemazon	6P1	1/30	37	8.7	9.3	-	3
Fenton Hill	6P2	1/28	20	3.7	4.5	3.3	9

NS No survey
(a) Air Observed

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This Report Prepared by
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Soil Conservation Service
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Ft Collins, Colorado

WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

SAN MIGUEL - DOLORES - ANIMAS - SAN JUAN WATERSHEDS IN COLORADO & NEW MEXICO

as of
FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW

SNOW COVER IN THIS AREA IS DEFICIENT, ESPECIALLY ON THE SAN JUAN AND ANIMAS. THE SNOW PACK IN THESE BASINS IS LESS THAN 50% OF THE 15-YEAR NORMAL. THE DOLORES WATERSHED ALSO HAS POOR SNOW COVER BUT NOT QUITE AS CRITICAL AS THE OTHER AREAS. SNOW COVER ON THE DOLORES IS ABOUT 60% OF NORMAL. MORE THAN HALF OF THE SNOW SEASON IS STILL TO COME SO THE SITUATION COULD IMPROVE. THE CURRENT WATER SUPPLY OUTLOOK FOR THIS SUMMER IS NOT GOOD.

SOIL MOISTURE

SOIL MOISTURE STATIONS, SITUATED AT RATHER HIGH ELEVATIONS, INDICATE THE SOILS ARE NOT AS WET AS LAST YEAR, BUT ARE APPROACHING NORMAL. THE RECORDS OF SOIL MOISTURE ARE SHORT, SO EXACT COMPUTATIONS OF MOISTURE IN THE SOIL ARE DIFFICULT. SOIL MOISTURE IS REPORTED AS FAIR TO GOOD IN THE IRRIGATED AREAS.

RESERVOIRS

STORAGE ON THE MAIN RESERVOIRS IS SIMILAR TO LAST YEAR AND ABOUT NORMAL.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

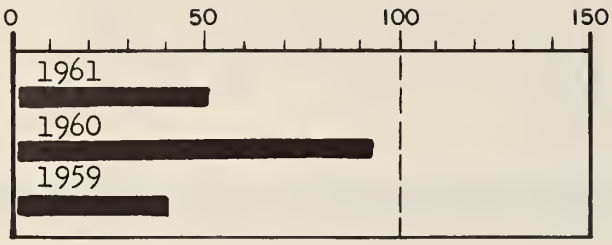
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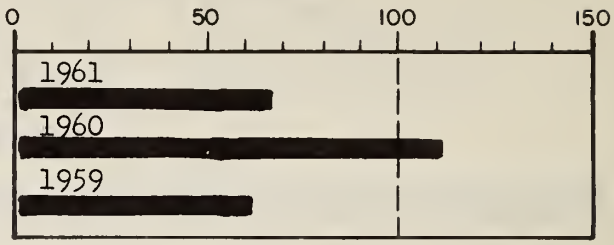
K. W. Chalmers, State Conservationist, Colorado
J. P. Sexton, Area Conservationist, Monte Vista, Colorado
E. A. Nicholson, Area Conservationist, Grand Junction, Colorado
R. A. Young, State Conservationist, New Mexico
J. B. Christy, Area Conservationist, Albuquerque, N. M.

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

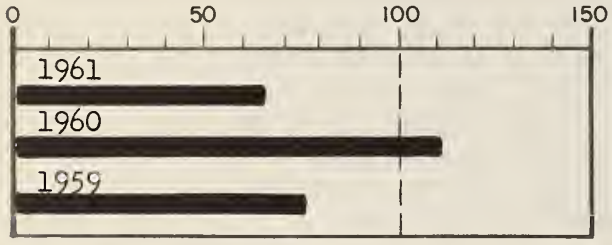
SAN JUAN



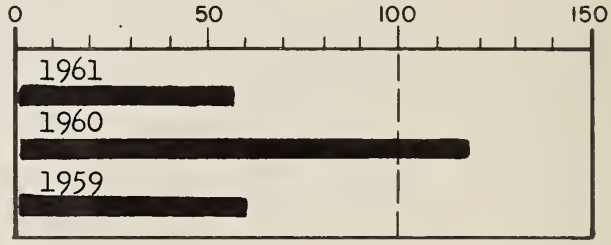
PIEDRA-PINOS-FLORIDA



DOLORES



ANIMAS-LA PLATA



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Groundhog	21.7	4.0	3.5	7.0
Vallecito	126.3		44.3	40.7

* 15 Year Avg. 1943-57

MEASURED FIRST OF MONTH

PRECIPITATION

STATION	FALL * AVE.	FALL * DEP.	WINTER AVE. Dec.	WINTER DEP
Dolores	4.20	-1.00	2.20	.37
San Juan	6.92	-4.48	1.74	.22

*August through November

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Lizard Head	7.0	4.1	5.4	-
Dolores	7.0	0.7	2.5	-
Rico	7.0	4.8	5.0	-
Mineral Creek	7.0	4.1	5.6	4.8
Molas Lake	7.0	0.9	3.2	3.4
Cascade	7.0	4.5	5.7	5.5

*All past data

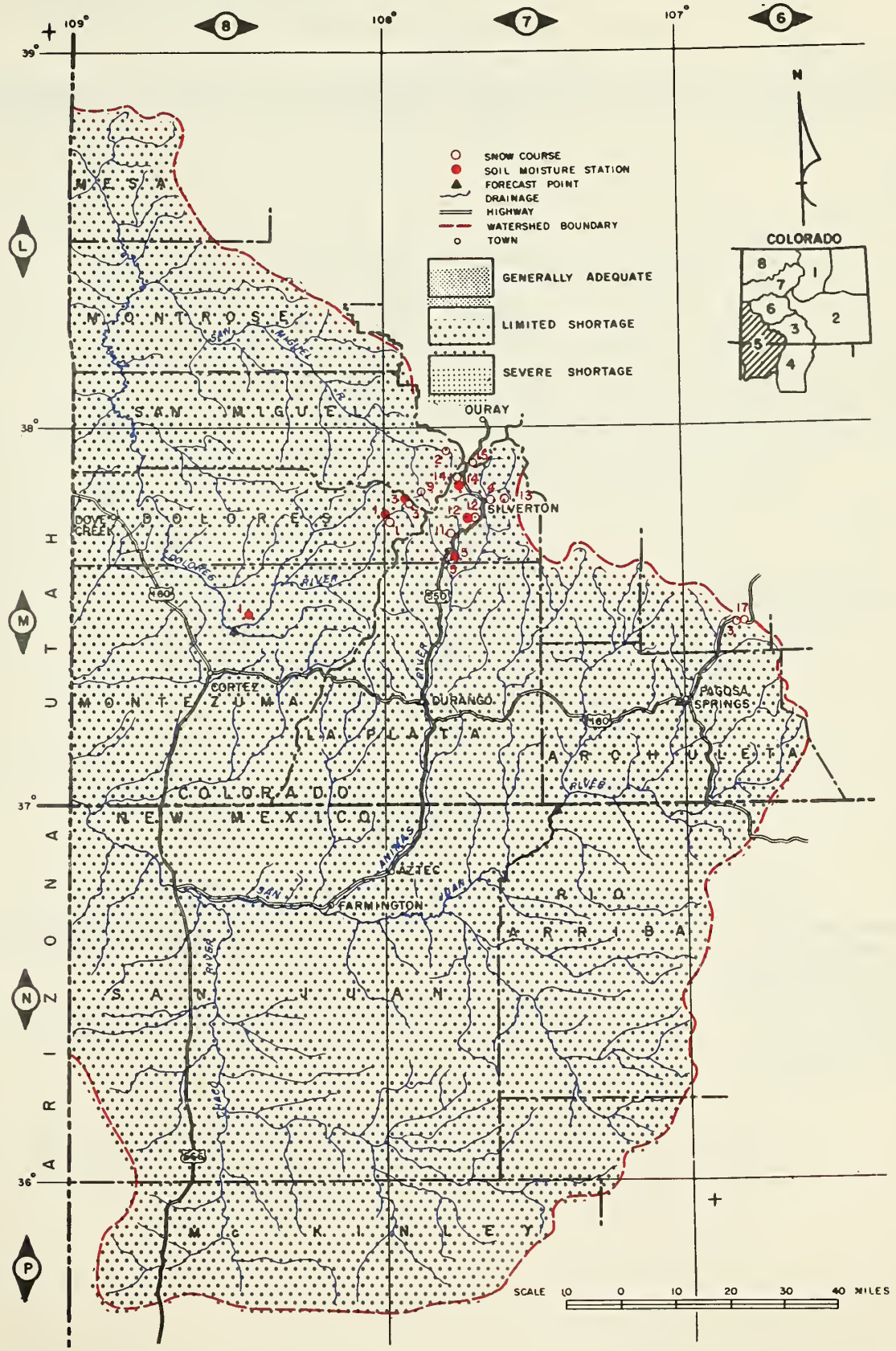
ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 A.F.)

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
San Juan at Rosa, N.M.			587
Los Pinos nr Bayfield *			220
Florida nr Durango			62
Animas at Durango			475
LaPlata at Hesperus			28
Dolores at Dolores			279

* OBSERVED FLOW PLUS CHANGES IN STORAGE IN VALLECITO RESERVOIR

SAN MIGUEL-DOLORES-ANIMAS-SAN JUAN RIVERS WATERSHEDS IN COLORADO & NEW MEXICO



USDA-SCS-LINCOLN NEBR 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES): LAST YEAR	PAST RECORD: WATER CONTENT (INCHES): AVERAGE	PAST RECORD: YEARS OF RECORD
SAN JUAN RIVER							
Wolf Creek Pass *	6M1	1/27	47	7.6	21.4	19.5	21
Upper San Juan	6M3	1/27	47	8.6	22.9	21.8	21
Wolf Creek Summit	6M17	1/27	39	8.1	27.3	19.3	10
Chama Divide *	6N2	1/30	14	2.8	6.3	3.9	21
Chamita *	6N3	1/30	26	4.5	6.4	7.3	19
ANIMAS RIVER							
Silverton Sub-Station	7M4	1/28	11	2.7	NS	4.3	18
Ironton Park *	7M6	1/31	24	5.0	5.4	7.4	24
Cascade	7M5	1/28	23	4.2	8.9	9.1	22
Spud Mountain	7M11	1/28	36	7.7	17.6	16.9	10
Molas Lake	7M12	1/28	22	3.1	8.2	10.0	10
Howardville	7M13	1/28	23	4.4	NS	9.1	6
Mineral Creek	7M14	1/28	25	4.6	NS	-	-
Red Mountain Pass	6M19	1/28	55	12.2	18.9	16.9	3
DOLORES RIVER							
Rico	7M1	1/30	18	4.5	5.6	6.2	21
Telluride	7M2	1/27	24	3.9	3.6	5.1	22
Lizard	7M3	1/30	26	5.4	10.3	9.9	14
Trout Lake	7M9	1/27	26	4.6	6.8	8.9	12

* Adjacent drainage
NS No survey

This Report Prepared by
Jack N. Washichek and Don W. McAndrew
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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

GUNNISON RIVER WATERSHED IN COLORADO

as of

FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW

SNOW COVER ON THE GUNNISON DRAINAGE IS FAR SHORT OF NORMAL. CONSIDERING BOTH UNCOMPAHGRE AND GUNNISON DRAINAGES TOGETHER, SNOW PACK IS ONLY ABOUT 58% OF 15-YEAR AVERAGE. THE SNOW IS ALMOST AS DEEP AT LOWER ELEVATIONS AS AT THE HIGHER LEVELS. THIS INDICATES EITHER COMPARATIVELY FEW STORMS OR THE SAME AMOUNT OF SNOW FALL OVER THE ENTIRE BASIN IN NUMEROUS SMALL STORMS. ABOUT 60% OF THE SNOW SEASON IS YET TO COME SO THIS SITUATION COULD IMPROVE. THE REMAINDER OF THE SNOW SEASON WILL HAVE TO BE CONSIDERABLY ABOVE NORMAL TO INSURE ADEQUATE WATER FOR IRRIGATION THIS SUMMER.

SOIL MOISTURE

SOIL MOISTURE, AS INDICATED BY THE HIGH ELEVATION MOISTURE STATIONS, IS BELOW NORMAL AND MUCH BELOW LAST YEAR. SOIL MOISTURE CONDITIONS IN THE IRRIGATED AREAS ARE REPORTED AS POOR TO FAIR.

RESERVOIR STORAGE

TAYLOR RESERVOIR CONTAINS 29,000 A.F. COMPARED TO LAST YEAR'S 43,400 A.F. AND A NORMAL OF 61,000 A.F.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

THIS REPORT COMPILED IN COOPERATION WITH COLORADO EXPERIMENT STATION AND STATE ENGINEER OF COLORADO.

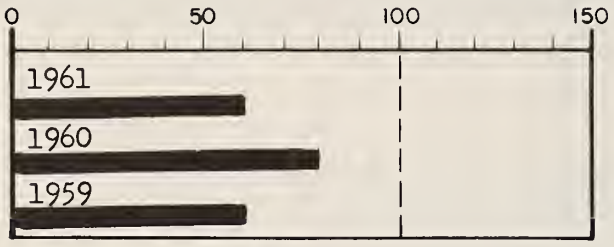
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K. W. Chalmers, State Conservationist, Colorado

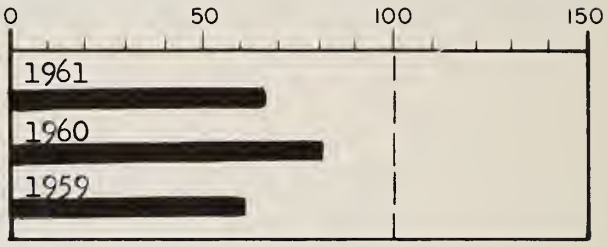
E. A. Nicholson, Area Conservationist, Grand Junction, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

GUNNISON



UNCOMPAHGRE



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Taylor	106.2	29.1	43.4	61.0

*15 yr. average 1943-57

MEASURED FIRST OF MONTH

PRECIPITATION

STATION	FALL * AVE.	FALL * DEP.	WINTER AVE Dec.	WINTER DEP.
Gunnison	3.52	-1.10	.93	-.13

*August through November

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Mineral Creek	7.0	4.1	5.6	4.8
Placita	8.0	0.1	2.4	1.5
Maroon	8.0	0.1	4.8	1.8
King	8.0		5.9	6.1

* All past data

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST 1,000 A.F.

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
Gunnison nr. Grand Jct.			1386
Uncompahgre at Colona			145
Surface Cr. at Cedaredge			78

GUNNISON RIVER WATERSHED IN COLORADO



USDA-SCS-LINCOLN, NEBR 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION			PAST RECORD		
		DATE OF SURVEY	SNOW DEPTH (INCHES)	WATER CONTENT (INCHES)	WATER CONTENT (INCHES)		YEARS OF RECORD
					LAST YEAR	AVERAGE	
GUNNISON RIVER							
Crested Butte	6L1	1/30	28	5.6	2.1	9.4	25
Park Cone	6L2	1/27	24	3.5	4.3	7.0	25
Alexander Lake (a)	7K3	1/27	17	3.5	9.8	13.4	24
Mesa Lakes *	7K4	1/28	22	4.5	9.1	10.2	24
Porphyry Creek	6L3	1/30	38	9.0	11.7	10.0	21
Monarch Pass *	6L4	1/30	40	10.3	7.8	10.8	20
North Lost Trail * (a)	7K1	1/27	22	4.9	9.1	9.2	18
Trickle Divide * (a)	7K5	1/27	38	7.5	13.9	17.0	17
Park Reservoir (a)	7K6	1/27	28	6.5	12.7	15.6	17
Cochetopa Pass	6L6	1/27	20	4.8	2.9	3.8	12
McClure Pass (a)	7K8	1/27	21	5.3	11.5	11.9	6
Mineral Creek *	7M14	1/28	25	4.6	NS	-	-
Lake City	7M8		NS	NS	NS	-	-
Tomichi	6L7	1/30	25	4.9	4.3	-	3
Blue Mesa	7L2		NS	NS	NS	-	-
Keystone	7L3	1/30	30	5.0	-	-	-
Long Draw	7L4	1/28	15	3.0	-	-	-
UNCOMPAHGRE RIVER							
Ironton Park	7M6	1/31	24	5.0	5.4	7.4	24
Telluride	7M2	1/27	24	3.9	3.6	5.1	22
Lizard Head	7M3	1/30	26	5.4	6.8	9.9	14
Trout Lake	7M9	1/27	26	4.6	10.3	8.9	12
Red Mountain Pass *	7M15	1/28	55	12.2	18.9	16.9	3

NS - No Survey
(a) Air Observed
* - On adjacent drainage

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE

COLORADO RIVER WATERSHED IN COLORADO

as of
FEBRUARY 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW COVER

THE PROSPECTS FOR ADEQUATE WATER SUPPLY FOR AGRICULTURAL USE THIS SUMMER ARE NOT OPTIMISTIC. SNOW COVER OVER THE ENTIRE MAIN STEM AREA IS MUCH BELOW AVERAGE. THE HEADWATERS AREA IS SLIGHTLY BETTER THAN DOWNSTREAM, BUT IT IS ONLY ABOUT 65% OF NORMAL. IF THE FOUR REMAINING MONTHS OF THE 1961 SNOW SEASON PRODUCE ABOVE AVERAGE SNOW FALL, WE CAN THEN EXPECT THE WATER SUPPLY OUTLOOK TO GREATLY IMPROVE.

SOIL MOISTURE

SOIL MOISTURE CONDITIONS AT THE HIGH ELEVATIONS ARE LESS THAN NORMAL IN MOST CASES. OF THE NINE SOIL MOISTURE STATIONS ON THIS DRAINAGE, ONLY ONE AREA HAS BETTER THAN AVERAGE SOIL MOISTURE. SOME REDUCTION IN SPRING RUNOFF WILL RESULT.

RESERVOIR STORAGE

RESERVOIR STORAGE IS SIMILAR TO LAST YEAR AND SLIGHTLY BETTER THAN NORMAL. GRANBY RESERVOIR, WHICH IS A PART OF THE BIG THOMPSON PROJECT, HAS 268,800 A.F. COMPARED TO 250,500 A.F. LAST YEAR AT THIS TIME.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

THIS REPORT COMPILED IN COOPERATION WITH COLORADO EXPERIMENT STATION AND STATE ENGINEER OF COLORADO.

ISSUED BY: SOIL CONSERVATION SERVICE

K. W. Chalmers, State Conservationist,
Colorado

E. A. Nicholson, Area Conservationist
Grand Junction, Colorado
M. H. Weaver, Area Conservationist,
Glenwood Springs, Colorado

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES): LAST YEAR	PAST RECORD: WATER CONTENT (INCHES): AVERAGE	PAST RECORD: YEARS OF RECORD
COLORADO RIVER (UPPER)							**
Phantom Valley	5J4	1/28	20	3.9	3.9	6.6	25
Hoosier Pass	6K1	1/30	25	6.0	8.1	7.2	22
Berthoud Pass	5K3	1/30	32	6.1	9.0	8.8	25
Tennessee Pass	6K2	1/30	17	3.3	5.6	6.9	25
M. Fork Camp Ground	5K4	Est.	26	3.9	3.2	6.2	24
Fiddlers Gulch	6K5	Est.	30	6.1	9.6	10.0	21
Lulu	5J7		NS	NS	NS	-	-
Willow Creek Pass	6J5	1/30	21	4.1	6.3	7.8	21
North Inlet Grand Lake	5J9		NS	NS	3.2	6.1	20
Lake Irene	5J10	Est.	24	5.5	9.6	13.6	22
Arrow	5K6	1/27	29	3.9	5.3	6.5	23
Lapland	5K7		NS	NS	NS	-	-
Fremont Pass	6K8	1/28	31	6.7	9.8	10.3	25
Lynx Pass	6K6	1/30	23	4.3	4.6	7.7	21
Shrine Pass	6K9	1/29	29	5.2	9.6	10.8	19
Grizzly Peak	5K9	1/27	31	6.1	11.5	11.3	19
Glen Mar Ranch	6K20	1/27	23	3.7	3.0	5.6	13
Monarch Lake	5J14				5.0	8.0	9
Granby	5J16	1/30	14	2.3	3.0	5.0	12
Grand Lake	5J19	1/28	22	1.5	3.0	6.0	12
Berthoud Summit	5K14	1/30	35	7.0	13.6	12.4	10
Gore Pass	6J11	1/30	17	3.7	3.5	6.5	9
Frisco	6K13	1/28	12	1.8	2.5	5.6	10
Snake River	5K16	1/29	15	2.3	2.4	6.1	9
Summit Ranch	6K14	Est.	20	2.6	-	-	-
Vail Pass	6K15	1/29	24	4.8	7.0	10.7	7
Pando	6K19	1/29	15	3.2	2.4	5.7	6
Kokomo	6K18	1/28	24	4.3	6.6	7.5	6
Milner Pass	5J24		NS	NS	-	-	-
Blue River	6K21	1/30	15	2.7	3.3	-	4
Jones Pass	5K21	1/30	31	5.4	8.2	-	4
Ranch Creek	5K18	1/27	24	1.9	4.2	-	4
Vasquez Creek	5K19	1/27	28	4.5	7.4	-	4
Cooper Hill	6K23	1/29	22	4.7	NS	-	1
ROARING FORK RIVER							
Independence Pass Tunnel	6K4	1/20	23	4.3	9.1	10.6	25
North Lost Trail A	7K1	1/27	29	4.9	5.8	9.2	18
Nast	6K6		NS	NS	-	-	16
Ivanhoe	6K10	1/28	27	5.6	5.4	10.5	15
McClure Pass A	7K8	1/27	21	5.3	11.5	11.9	6
Lift	7K27	1/27	32	8.1	7.6	-	3
Aspen	7K22	1/27	25	4.8	8.3	-	1
PLATEAU CREEK							
Mesa Lakes	7K4	1/28	22	4.5	9.1	10.2	24
Trickle Divide A	7K5	1/27	38	7.5	13.9	17.0	17
Alexander * A	7K3	1/27	17	3.5	9.8	13.4	24
Park Reservoir * A	7K6	1/27	28	6.5	12.7	15.6	17

*On adjacent drainage

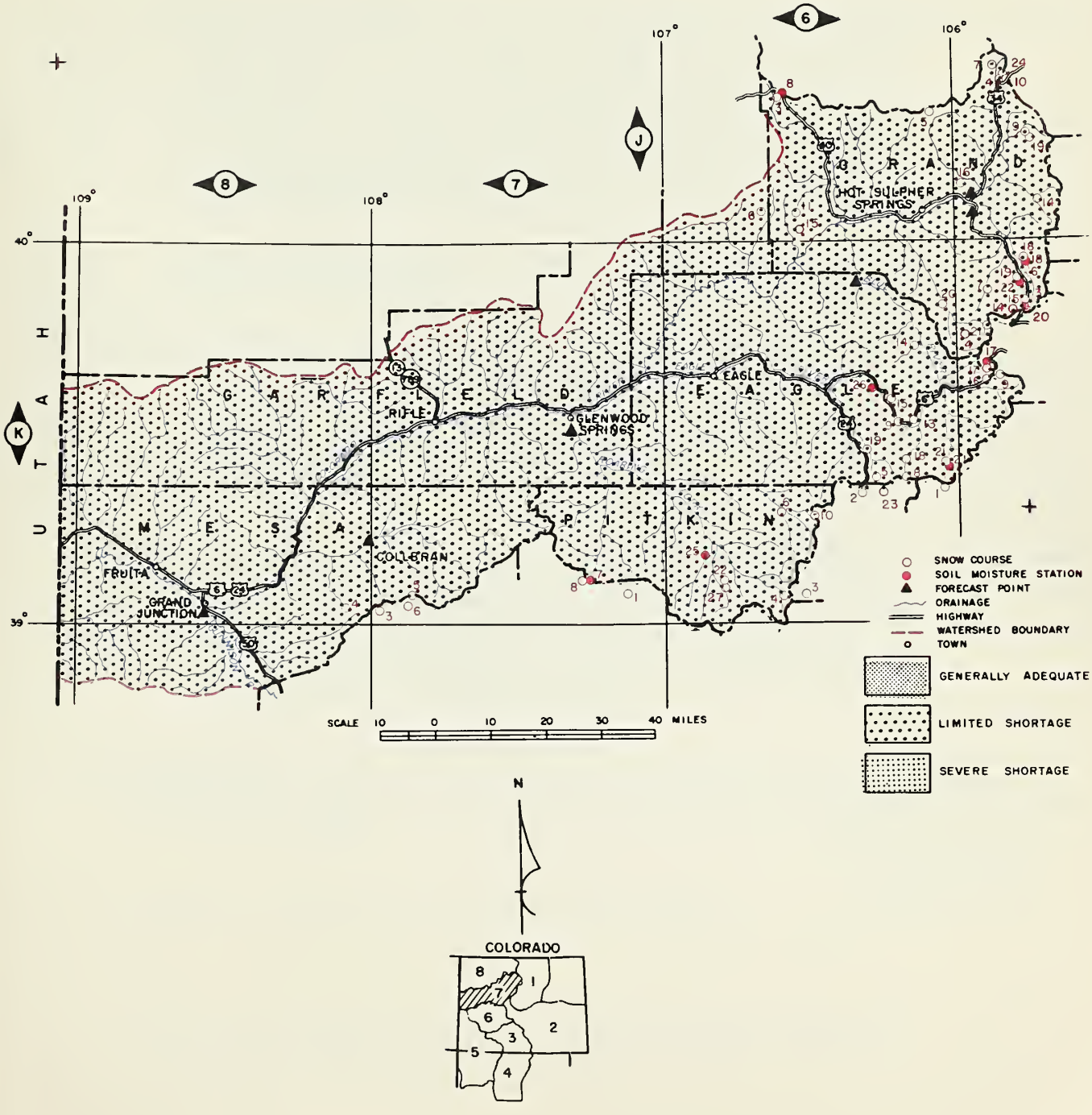
A - Air Read

** — Courses with less than 15 years record in period 1943-57 have all years prior to 1957 averaged.

NS -- No Survey

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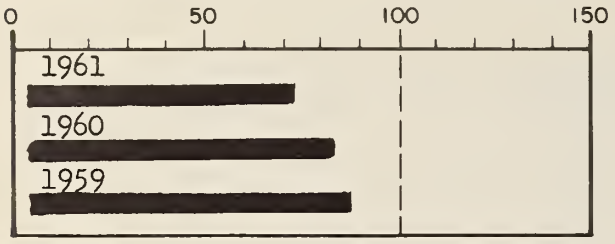
COLORADO RIVER WATERSHED IN COLORADO



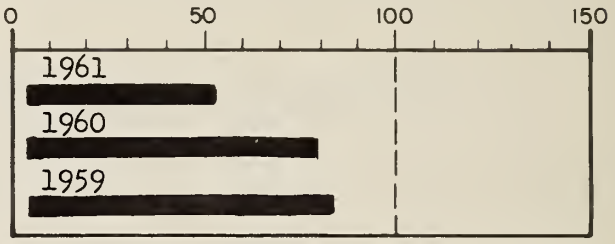
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WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

UPPER COLORADO ABOVE GLENWOOD SPRINGS



LOWER COLORADO BELOW GLENWOOD SPRINGS



RESERVOIR STORAGE (1,000 AC. FT.)

RESERVOIR	USABLE CAPACITY	THIS YEAR	LAST YEAR	AVERAGE *
Granby **	465.5	268.8	250.5	212.9
Green Mt.	146.9	74.9	85.9	76.7

* 1943-57

** Less than 15 years

MEASURED FIRST OF MONTH

PRECIPITATION

STATION	FALL * AVE.	FALL * DEP.	WINTER AVE. Dec.	WINTER DEP. Dec.
Upper Colorado	3.72	-1.24	1.11	-.28
Lower Colorado	3.52	- .65	.82	-.43

* August through November

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Muddy Pass	8.0	0.6	5.0	2.0
Gore	7.0	0.2	2.1	1.1
Berthoud Pass	8.0	5.4	1.0	2.6
Vasquez	7.0	5.4	-	4.4
Ranch Creek	7.0	3.9	5.7	4.2
Vail Pass	8.0	0.2	5.2	2.2
Blue River	7.0	1.3	4.4	2.7
Placita	8.0	0.1	2.4	1.5
Maroon	8.0	0.1	4.8	1.8

* All past data

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1000 A.F.)

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
Blue R.abv. Green Mt. Dam			290
Colo. R. nr. Granby (4)			235
Colo. R. at Glenwood Spgs(5)			1546
Roaring Fork at Glen. Spgs(6)			803
Plateau nr. Collbran			57

(4) Observed flow plus diversions by Adams tunnel and Grand River ditch plus change in storage in Granby Reservoir.

(5) Observed flow plus the changes as indicated in (4) plus Moffat Ditch.

(6) Observed flow plus diversion through Twin Lakes tunnel.

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WATER SUPPLY OUTLOOK
FOR THE SOIL CONSERVATION DISTRICTS IN THE
YAMPA, WHITE, & NORTH PLATTE RIVERS WATERSHEDS IN COLORADO

as of
February 1, 1961

U. S. DEPARTMENT OF AGRICULTURE SOIL CONSERVATION SERVICE

SNOW COVER

SNOW COVER IN THESE BASINS IS THE POOREST IN MANY YEARS. SOME COURSES ARE THE LOWEST ON RECORD. SNOW AT LOWER ELEVATIONS IS ALMOST AS GOOD AS THAT AT EXTREMELY HIGH LOCATIONS. THIS IS A MOST UNUSUAL CONDITION. UNLESS THIS CONDITION IMPROVES IN FUTURE MONTHS, WATER SUPPLIES WILL BE VERY POOR THIS SUMMER. WITH 60% OF THE SNOW SEASON REMAINING, THERE IS STILL A POSSIBILITY FOR IMPROVEMENT IN THE WATER SUPPLY OUTLOOK.

AVERAGE SNOW COVER IN THE NORTH PLATTE DRAINAGE IS ONLY ABOUT 65% OF NORMAL.

THE YAMPA WATERSHED HAS ONLY ABOUT 60% SNOW COVER WHILE THE WHITE RIVER DRAINAGE HAS ABOUT 55% OF ITS USUAL SNOW.

UPSTREAM WATER USERS MAY NOT BE CRITICALLY SHORT, BUT THERE IS A POSSIBILITY OF EXTREMELY SHORT WATER SUPPLIES FOR THE LOWER AREAS.

SOIL MOISTURE

THERE ARE FIVE SOIL MOISTURE STATIONS ON THESE THREE DRAINAGES. THESE STATIONS RANGE IN ELEVATION FROM 8500 TO 10,500 FEET. ALL OF THESE STATIONS SHOW LESS SOIL MOISTURE THAN NORMAL AND FAR SHORT OF LAST YEAR. SOILS LAST YEAR AT THIS TIME WERE EXTREMELY WET. THIS CONDITION WILL TEND TO REDUCE RUNOFF.

AVERAGE WATER CONTENT IS COMPUTED ON 15-YEAR BASIS (1943-57). ALL YEARS OF RECORD ARE USED WHEN A SNOW COURSE HAS LESS THAN 15 YEARS OF RECORD.

NUMERICAL FORECASTS ARE NOT MADE UNTIL MARCH 1.

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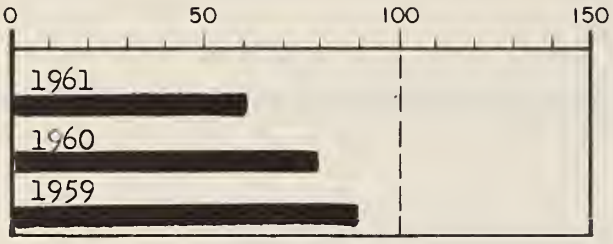
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K. W. Chalmers, State Conservationist, Colorado

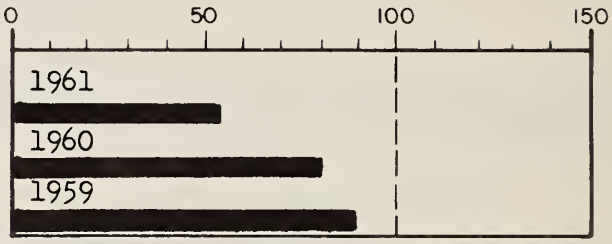
M. H. Weaver, Area Conservationist, Glenwood Springs, Colorado

WATER SUPPLY OUTLOOK IN PERCENT OF 1943-57 AVERAGE

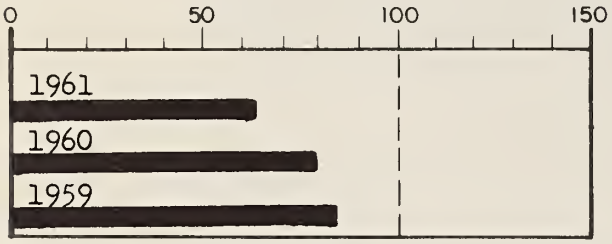
YAMPA



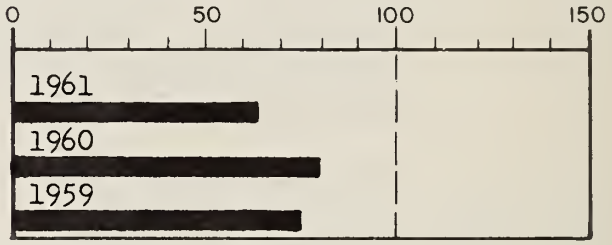
WHITE



LARAMIE



NORTH PLATE



SOIL MOISTURE

STATION	CAPACITY (INCHES)	THIS YEAR	LAST YEAR	AVERAGE *
Muddy Pass	8.0	0.6	5.0	2.0
Willow Pass	7.0	1.1	7.0	3.4
Two Mile	8.0	0.5	5.0	3.0
Laramie Road	7.0	0.8	5.3	2.2
Hahn's Peak	8.0	5.9	-	

* All past years

ALL PROFILES 4 FEET DEEP

STREAMFLOW FORECAST (1,000 A.F.)

STREAM AND STATION	FORECAST	THIS YEAR % AVERAGE	15 YEAR AVERAGE 1943-57
Laramie at Jelm			113
Elk at Clark			215
Yampa at Steamboat Spgs.			283
White at Meeker			335
North Platte at Northgate			255

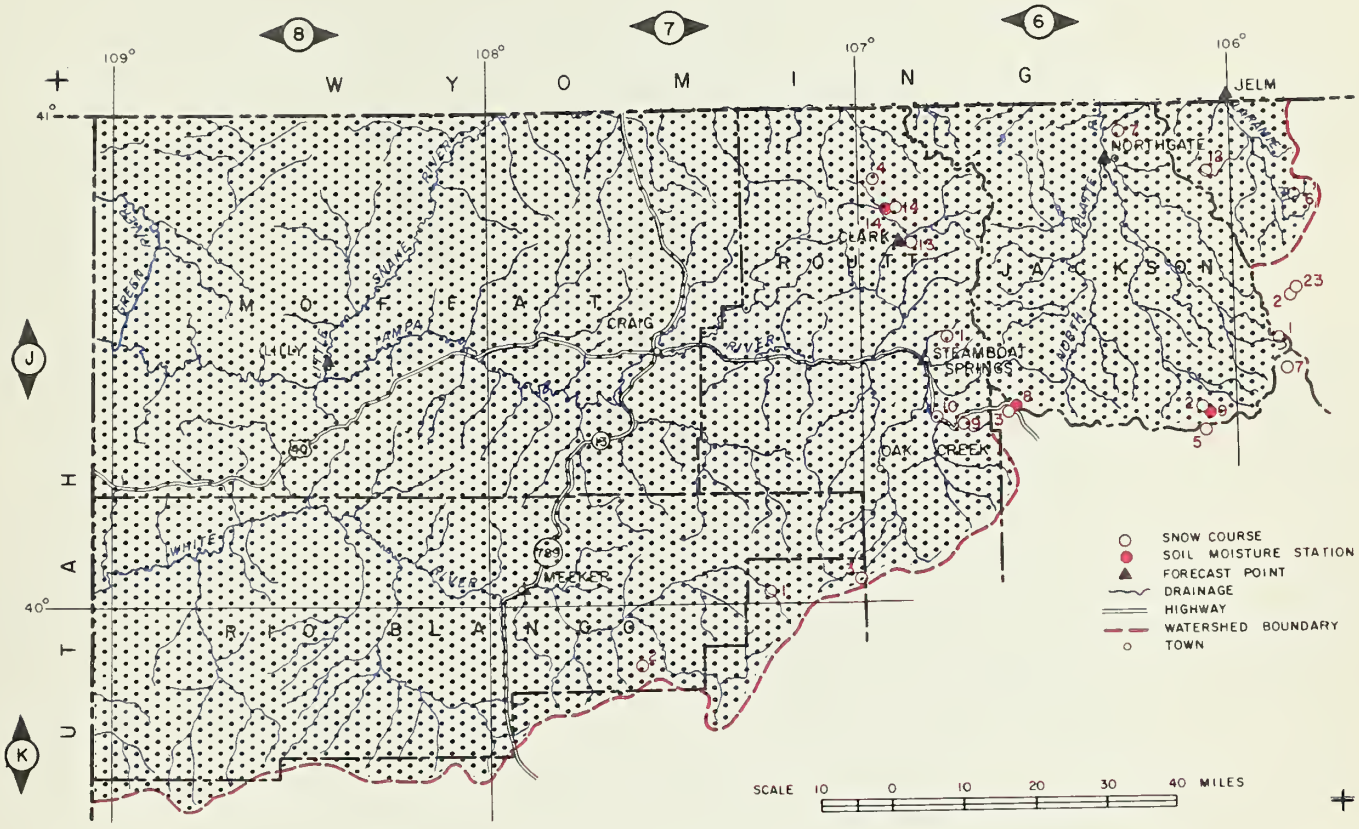
PRECIPITATION

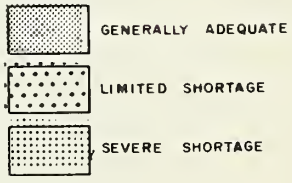
STATION	FALL * AVE.	FALL * DEP.	WINTER AVE. Dec.	WINTER DEP.
Yampa	5.12	-.48	1.20	-.64
White	4.64	-1.76	.73	-.69
North Platte	3.20	- .24	.20	-.17

PRELIMINARY U.S. WEATHER BUREAU DATA
AVERAGE OF SELECTED STATIONS

*August through November

YAMPA, WHITE, & NORTH PLATTE RIVERS WATERSHEDS IN COLORADO







USDA-SCS LINCOLN NEBR 1960

SNOW

SNOW COURSE	NO.	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (INCHES)	CURRENT INFORMATION: WATER CONTENT (INCHES)	PAST RECORD: WATER CONTENT (INCHES): LAST YEAR	PAST RECORD: WATER CONTENT (INCHES): AVERAGE	PAST RECORD: YEARS OF RECORD
NORTH PLATTE RIVER							
Cameron Pass (a)	5J1	1/31	34	7.8	9.0	13.6	22
Park View	6J2	1/30	19	3.7	4.4	5.9	23
Columbine Lodge	6J3	1/27	56	10.2	9.8	15.3	25
Deadman Hill * (a)	5J6	1/31	34	6.1	4.5	8.8	17
Willow Creek Pass *	6J5	1/30	21	4.1	6.3	7.8	21
Roach * (a)	6J12	1/31	20	4.1	-	11.2	18
Northgate	6J7	1/30	17	2.3	2.7	3.7	11
McIntyre *	5J15		NS	NS	NS	-	-
YAMPA RIVER							
Dry Lake (a)	6J1	1/28	38	6.8	8.2	13.2	19
Columbine Lodge *	6J3	1/27	56	10.2	9.8	15.3	25
Elk River (a)	6J4	1/28	37	6.7	7.6	10.8	20
Lynx Pass *	6J6	1/30	23	4.3	4.6	7.7	21
Rabbit Ears	6J9	1/27	49	10.5	NS	17.8	7
Yampa View	6J10	1/27	33	6.0	6.1	9.7	9
Bear River	7J3		NS	NS	NS	-	-
Clark (a)	6J13	1/27	26	4.7	4.9	10.7	4
Hahn's Peak	6J14		NS	NS	-	-	-
WHITE RIVER							
Burro Mountain (a)	7K2	1/27	29	5.4	9.2	10.3	25
Rio Blanco	7J1	1/25	23	5.2	5.0	9.9	21

* On adjacent drainage
(a) Air observed
NS No survey

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COOPERATIVE SNOW SURVEYS

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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"